DOCUMENT RESUME

ED 455 031 PS 029 685

AUTHOR Fuller, Bruce; Holloway, Susan D.; Bozzi, Laurie; Burr, Elizabeth; Cohen, Nancy; Suzuki, Sawako

TITLE Preschool and Child-Care Quality in California Neighborhoods: Policy Success, Remaining Gaps. PACE Working Paper Series.

INSTITUTION Policy Analysis for California Education, Berkeley, CA.; California Univ., Berkeley.; Stanford Univ., CA.; California Child Care Resource and Referral Network, San Francisco.

SPONS AGENCY David and Lucile Packard Foundation, Los Altos, CA.

REPORT NO PACE-WPS-01-3

PUB DATE 2001-08-00

NOTE 30p.

AVAILABLE FROM PACE, University of California, Graduate School of Education, 3653 Tolman Hall, Berkeley, CA 94720-1670 ($10). Tel: 510-642-7223; Web site: http://pace.berkeley.edu.

PUB TYPE Reports - Evaluative (142)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS *Day Care; Early Childhood Education; *Educational Quality; Low Income Groups; *Preschool Education; *Public Policy

IDENTIFIERS California; *Day Care Quality; Indicators; Program Characteristics

ABSTRACT

Noting that the quality of child care and early education available to lower-income families has received considerable attention over the past decade, this study explored variability in the quality of California day care centers and preschools. Participating in the study were 170 centers and preschools situated among 20 California zip codes, clustered in three counties: Los Angeles, San Francisco, and Santa Clara. All the zip codes selected contained significant concentrations of lower-income families. Findings indicated that the majority of centers displayed high levels of quality along structural measures, such as class size, the ratio of children per adult, and staff education levels. About one in six failed to meet recommended quality standards. Some quality indicators were slightly lower for centers located in communities with less supply, possibly due to directors' attempts to accommodate greater family demand for enrollment slots. Center quality was not consistently influenced by community conditions such as poverty levels, ethnic composition, or maternal employment rates. Quality was higher among centers receiving stronger flows of public subsidies. Analysis of findings centered around the success of state agencies in building high quality among centers in lower-income communities as well as the policy challenges that remain. Maps indicating the sampled communities by zip code are appended. (Contains 14 references.) (KB)

Reproductions supplied by EDRS are the best that can be made from the original document.

ED 455 031

PACE WORKING PAPER SERIES 01-3

Preschool and Child-Care Quality in California Neighborhoods:

Policy Success, Remaining Gaps

August 2001

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

D. Smith

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Policy Analysis for California Education
University of California, Berkeley and Stanford University
and the California Child Care Resource & Referral Network

PS 030 655

2

BEST COPY AVAILABLE

Summary: How does the quality of preschools and centers vary across California neighborhoods?

The basic *availability* of preschools and centers remains unevenly distributed between affluent and lower-income communities. Yet policy initiatives mounted over the past 35 years have markedly equalized supply in some states, including California. This paper advances our knowledge of the distribution of center-based programs by asking three questions:

1. What levels of *quality* are observed among preschools and centers situated in diverse lower-income communities?
2. Does quality vary depending upon the richness or scarcity of center-based programs inside neighborhoods? Do gains in supply thin-out quality?
3. Does quality move upward as center directors acquire more public funding and insulate their organizations from uncertain local contexts?

Based on several quality indicators reported by 170 center directors in three California counties—Los Angeles, San Francisco, and Santa Clara—we found that the majority of centers displayed high levels of quality along structural measures, such as class size, the ratio of children per adult, and staff education levels. About one in six failed to meet recommended quality standards. Some quality indicators were slightly lower for centers located in communities with less supply, possibly due to directors' attempts to accommodate greater family demand for enrollment slots.

Center quality was not consistently influenced by community conditions such as poverty levels, ethnic composition, or maternal employment rates. Quality was higher among centers receiving stronger flows of public subsidies. We discuss the success of state agencies in building high quality among centers in lower-income communities, as well as the policy challenges that remain.

Acknowledgments

This paper results from a cooperative study undertaken by the University of California, Berkeley (PACE) and the California Child Care Resource and Referral Network in San Francisco. Fran Kipnis helped in designing the study and codirected our field work. The project was made possible by the financial support of the David and Lucile Packard Foundation. Special thanks to Marie Young for her steady support. Appreciation is expressed to Mary Hruby, Alice Walker Duff, and Shelley Waters Boots for reviewing earlier drafts of this report. Thanks also go to Bob Hass for his editing and Joanne Klein for the graphic design.

WORKING PAPER SERIES 01-3

Preschool and Child-Care Quality in California Neighborhoods:

Policy Success, Remaining Gaps

August 2001

Bruce Fuller
Susan D. Holloway

with
Laurie Bozzi
Elizabeth Burr
Nancy Cohen
Sawako Suzuki

Policy Analysis for
California Education
PACE

Table of Contents

SECTION 1

Center and Preschool Quality: Backdrop and Research Questions ____ 1

SECTION 2

Can Poor Families Only Access Low Quality Centers? ____ 2

- State Targeting and Quality Regulation: Mediating the Effects of Local Context ____ 3
- The California Case ____ 3
- Empirical Questions ____ 4

SECTION 3

Gauging Quality in Sampled Centers ____ 4

- Sampling Lower-Income Communities and Centers ____ 4
- Interview Topics and Measures ____ 6
- Contextual Determinants of Quality ____ 7

SECTION 4

Findings: Describing and Explaining Variation in Center Quality ____ 7

- Quality Levels by County ____ 7
- Characteristics of Center Organizations and Directors ____ 9
- Variation in Quality Among Centers and Across Neighborhoods ____ 11
- Explaining Variability in Center Quality ____ 13
- Is Center Quality and Complexity Influenced by Neighborhood Context? ____ 13

SECTION 5

Conclusions: State Policy Success and Remaining Gaps ____ 16

- Policy Challenges ____ 17
- The Importance of Wide and Deep Research ____ 17

Appendix 1 ____ 18

Endnotes ____ 22

References ____ 22

SECTION 1.

Center and Preschool Quality: Backdrop and Research Questions

The quality of child care and early education available to lower-income families has received considerable attention over the past decade. New evidence details how young children vary widely in their readiness to start school (West et al., 2000). The implementation of welfare-to-work programs has placed new strains on the child-care system. Today two-thirds of all women with a child age 0-5 years work outside the home. Steadily rising rates of maternal employment have boosted the demand for center-based care and preschools (Hofferth, 1999).

Several multi-state studies focusing on center quality across diverse communities have now been completed, and reveal quite mixed results. Some studies have shown that quality indicators among centers in poor neighborhoods fall significantly below levels observed in centers situated in affluent or middle-class areas. But other research reveals that quality—along certain organizational attributes such as child-to-staff ratios or staff salaries—is actually higher in heavily subsidized centers, compared to those supported by parental fees (Fuller, Raudenbush, Wei, & Holloway, 1993; Phillips, Voran, Kisker, Howes, & Whitebook, 1994). This inconsistency in the evidence may be due to how effectively states target subsidies on centers that serve lower-income families and how effectively they regulate quality.

For this study we explore variability in the quality of 170 centers and preschools situated among 20 California zip codes, nested in three counties: Los Angeles, San Francisco, and Santa Clara.[1] We chose California because it has built a large contracting system through which 13,000 different agencies, including community-based organizations (CBOs) and school districts, contract with the State Department of Education to operate centers under specific quality standards. All of the zip codes selected for this study contain significant concentrations of lower-income families, although they vary in economic health and demographic features.

Given this backdrop, we explore the following empirical questions:

- What levels of quality are observed among centers situated in diverse lower-income communities?
- Does quality vary depending on local supply conditions? For example, do we observe lower quality centers in neighborhoods with higher supply?
- Is the quality of a center influenced by its ability to draw public resources from the outside or dependent on the community context?

We first review the literature on center quality in lower-income neighborhoods. Here we examine whether quality is unequally distributed between affluent and poor communities, similar to the unequal supply of centers. Second, we elaborate on the importance of these research questions to public policy, then describe our research design. Third, we report descriptive findings and estimate levels of center quality

[1]

based on multiple variables. We discuss the extent to which subsidy flows from the state and community context account for variation in quality across the 170 sampled centers. Fourth, we discuss the implications of our findings, as well as the study's limitations.

SECTION 2.
Can Poor Families Only Access Low Quality Centers?

Great strides have been made in equalizing basic access to center-based programs since the early 1960s, especially for families below the poverty line. Disparities certainly persist, especially for working families who neither qualify for subsidized care nor have the economic means to pay fees charged by centers. One recent study in California found that the supply of enrollment slots in centers per 100 preschool-age children was three times greater in affluent zip codes (based on median household income) than in zip codes populated primarily by lower-income families (Fuller, Kipnis, Coonerty, & Choong, 1997).

Yet new estimates of the supply of center teachers across the nation's 18,000 zip codes with preschool-age children confirm the presence of a curvilinear relationship between community wealth and the preschool workforce. That is, the number of teachers per capita is relatively high in very poor zip codes, then falls for blue-collar and lower-middle areas, and then climbs upward again in affluent zip codes (Loeb, Fuller, & Strath, 2001). Evidence of this curvilinear pattern surfaced earlier when looking at the relationship between household income and parents' propensity to select center-based care (Phillips et al., 1994; Fuller, Holloway, & Liang, 1996; Fuller & Strath, 2001).

These findings on the distribution of center slots and teachers lead to another line of inquiry. Does the distribution of center *quality* across diverse neighborhoods display a similar pattern? Over the past 15 years a handful of multi-state studies have pegged center quality and its variation to two main variables: 1) the characteristics of families served, and 2) the communities in which centers are situated. These studies, however, have yielded mixed findings on the degree to which wealth or poverty levels are associated with quality.

Drawing on two surveys of center quality, Phillips and colleagues (1994) found that centers serving lower-income families were of comparable or higher quality compared to centers serving middle-class families. These findings were based on structural indicators such as child-to-staff ratios and teacher salaries. On dimensions of quality related to such things as the educational program and teacher-child interactions, however, the first group fell below the second. These findings are quite similar to a subsequent study drawing on a national probability sample of about 1,900 centers spread across 38 states (Fuller et al., 1993). More recent evidence from the national evaluation of Early Head Start programs shows that mothers at or below the poverty line selected centers for their infants that displayed at least moderate quality levels (Pausell, Boller, & Raikes, 2001).

Other study teams have found a significant association between center quality and the

economic or social-class status of the families being served. Authors of the *Cost, Quality, and Child Outcomes* study found a linear relationship: children of poor families were enrolled in centers displaying lower quality in terms of structural features, scores on the Early Childhood Environment Rating Scales (ECERS), and social-process measures, compared to centers serving middle-class and affluent families (Helburn et al., 1985).

Data from the Berkeley-Yale *Growing Up in Poverty Project* revealed that center quality (in terms of ECERS scores) was significantly lower for those serving welfare-poor families, compared to earlier quality assessments done in the same states, including Connecticut and Florida (Fuller, Kagan, et al., 2000). But in the study's two California sites—San Francisco and Santa Clara County—the quality of centers serving welfare-poor families was somewhat higher than in the more middle-class array of centers previously assessed.

State Targeting and Quality Regulation: Mediating the Effects of Local Context

This apparent inconsistency in findings may be attributable to a pair of mediating forces. First, we now know that the per capita supply of center (or preschool) programs is not linearly associated with wealth or poverty among neighborhoods in some states (Fuller and Strath, 2001). This appears to be due to the effective targeting of subsidies—via Head Start and larger programs in several urban states—on lower-income communities over the past 35 years. Federal and state subsidies have helped to equalize basic access to centers, at least relative to per capita *supply* levels observed in many middle-class communities. Whether similar progress has occurred in equalizing the *quality* of center-based programs is the question on which the present paper focuses.

The intensity with which states regulate center quality represents the second intervening factor that may explain why center quality is not consistently lower in poor versus middle-class communities. The overall effect of state regulation and inspection is uneven among states, although the intensity of inspection appears to help sustain higher center quality in certain states (Hofferth, 1998). Centers that contract directly with state governments or those operated by school districts are held to specific standards of quality. Both kinds of public agencies make funding contingent upon centers' ability to meet quality benchmarks.

California's method of contracting with local organizations for enrollment slots, then regulating quality, now coexists with a market-oriented model that emphasizes child-care vouchers. We will see how voucher support, equaling over $1 billion in state and federal funding, brings fresh revenues to many centers. Vouchers in California are targeted on families earning up to 75% of the state median income. Our empirical question is whether contracted slots and targeted vouchers, together, may help to insulate centers from market exigencies in lower-income neighborhoods.

The California Case

Our survey of center directors was sparked by an interest within California's child-care community regarding the quality of centers situated in lower-income neighborhoods. The fact that this study was conducted in California is both a strength and a weakness. Its strength comes from the fact that regulations for the

13,000 centers that receive state funding are moderately strong and may result in higher quality programs. Its weakness is due to the fact that we cannot generalize our findings to other states, since only a handful of states have similar ways of contracting with and regulating the quality of local centers. On the other hand, an increasing number of states are expanding formal preschool programs with school districts and community organizations.

Title 5 regulations apply to all centers which contract with the state education department. In contrast, child-care vouchers (officially known as "certificates") can move through parents to centers, whether these centers fall until Title 5 quality standards or not.

Empirical Questions

Given the differing patterns in the distribution of center quality revealed in earlier research, and the likely role of state targeting and regulation, three empirical questions come into focus and motivate this study.

First, we want to simply gauge the *average level of center quality* across organizations situated in communities with significant numbers of lower-income families. We did not have the resources to conduct systematic observations in each of 170 participating centers, so we focused on structural indicators that could be measured through interviews with center directors. Other work at PACE does involve quality assessments in side centers located in Santa Clara and San Francisco counties (Fuller, Chan, Suzuki, & Kagan, 2001).

Second, we are curious about whether quality is *related to supply levels* in the lower-income communities sampled for the study. One might argue that policy makers face a quantity-quality tradeoff: as the supply of center-based care expands, average quality may decline. Head Start is presently confronting this issue. On the other hand, if center expansion occurs under fairly tight quality standards, then we would not observe lower quality in communities with richer supply.

Third, we aim to determine whether center quality is *sensitive to local contexts*. One measurable dimension relates to a center's capacity to draw differing subsidy flows from its environment. This relates to the director's wherewithal and the ability of local agencies to gain and distribute public funding. For instance, where county agencies have aggressively pursued state and federal dollars—from the child-care food program, state preschool initiative, or child-care vouchers—center-based programs are more likely to be on the receiving end.

SECTION 3. Gauging Quality in Sampled Centers

Sampling Lower-Income Communities and Centers

We first selected zip codes in each of the three study counties—Los Angeles, San Francisco, and Santa Clara—in which a large share of the families earned less than 200% of the poverty line. At the same time, we wanted to maximize variation in center supply across selected zip codes. Working with representatives of local child-care agencies, we selected six or

Table 1. Characteristics of Sampled Neighborhoods in Three California Counties.

	Los Angeles (n=48 centers)	San Francisco (n=64 centers)	Santa Clara Co. (n=58 centers)	F-value and statistical significance of mean differences
Median family income in tracts of sampled centers[1]	$19,988	$26,724	$38,147	37.96*
Median family income countywide (1996 estimate)	$35,089	$36,162	$49,083	23.03*
Estimated maternal labor force participation (%)[2]	40	57	52	72.60*
Percentage of population, African-American	50	23	4	70.71*
Percentage of population, Latino	49	21	40	29.59*
Number of churches per 1,000 adults[3]	1.9	1.1	0.6	53.67*
Child-care supply				
Center capacity in slots per 1,000 children under 6	137	324	229	83.00*
FCCH capacity in slots per 1,000 children under 6	29	59	80	22.02*

*$p < .0001$.
[1]Based on 1990 census data for the tracts in which sampled centers are located.
[2]Percentage of mothers with preschool-age children employed outside the home.
[3]Census data from 1990 for zip codes in which sampled centers are located.

BEST COPY AVAILABLE

seven zip codes in each county meeting these criteria. In Los Angeles County the selected zip codes were drawn exclusively from the south-central region (Figure 1). Figures 2 and 3 display the locations of sampled zip codes for San Francisco and Santa Clara County. These three maps appear in Appendix 1.

Basic characteristics of the selected communities are reported by county in Table 1. Median household income and center enrollment capacity per capita (a common supply indicator) are reported at the zip code level. Median income levels are low relative to each county's overall income level in 1990. In addition, attributes of zip codes vary within a county. For example, income levels among the seven Santa Clara zip codes range from $26,122 to $49,245.

The supply of enrollment slots in centers per 100 children, age 0–5, varies significantly among and within counties. Table 1 shows that centers situated within selected San Francisco zip codes provided 324 slots per 1,000 children, age 0–5, on average, in 1996, compared to 229 and 137 slots in Santa Clara and Los Angeles, respectively. Among San Francisco's six lower-income zip codes, capacity ranged from 177 to 453 slots per 1,000. Across the six Los Angeles zip codes, enrollment capacity ranged between 49 and 226 slots per 1,000.

In spring 1998 we then attempted to contact directors of all centers located in each selected zip code to conduct a half-hour phone interview. The overall response rate across the three counties equaled 84%.[3] In total, 176 directors agreed to participate. Complete data on the major variables of interest were available for 170 centers.

Interview Topics and Measures

The director interview was constructed to yield data in four basic areas related to the center's organization and personal attributes of the director.

Quality Indicators

Interviewers asked a series of questions that yielded discrete indicators of organizational quality, all falling under the rubric of "structural" gauges of quality. These included the maximum number of children in class groups of 3 year-olds; the average ratio of children per adult across all classes comprised of 3 year-olds; the number of staff who left the center in the prior year; and the director's school attainment level. The first three indicators have been associated with higher levels of early childhood development (Burchinal, 1999; Shonkoff & Phillips, 2000).

Organizational size and complexity

We looked at three indicators of complexity, each related to the center's capacity to serve more, or a wider range of, young children: current enrollment of children, age 0-5, whether attending full-time or part-time as defined by the director; whether the center served children under 2 years-old; and whether the center served children with special needs.

Securing resources from external agencies

Quality is presumably shaped, in large part, by the director's ability to acquire resources from external agencies. Many centers located *outside* lower-income communities rely solely on parental fees for operating revenues. But among the 170 participating centers, only 26% of the directors reported that they were not serving any subsidized children. We also asked directors about nine different forms of involvement or types of resources that could be gained from the local resource and referral agency, including providing parent referrals, staff training programs, information about subsidy flows, and lending children's books and learning materials.

Director characteristics

These attributes included age, ethnicity, length of tenure at the center, school attainment, and training specific to early childhood development. California has a minimal regulatory standard for directors' preparation, requiring 12 credit hours of early childhood course work and two years of classroom experience.

Contextual Determinants of Quality

We know that neighborhood-level economic and demographic forces often drive the local enrollment capacity of centers, as reviewed above. Similarly, it may be that centers located in better-off zip codes or census tracts are able to sustain stronger levels of quality. They may be less reliant on subsidy flows for revenue; working conditions may be more pleasant, reducing staff turnover; and better educated teachers and staff may be attracted to these more desirable settings. The counter hypothesis is that subsidy flows and quality regulations are equitably applied across a range of centers serving working families. Therefore, variability in the wealth, demographic features, or center supply conditions will not significantly influence internal quality. In short, targeting subsidies and enforcing quality standards from the state capital will insulate centers from external exigencies.

We assembled economic and demographic data on the 20 zip codes and their 95 component census tracts in which all sampled centers were located, largely from 1990 census data. This allowed descriptive analysis of variability in neighborhoods and regression analysis of whether quality levels are sensitive to their surrounding local contexts.

SECTION 4.
Findings: Describing and Explaining Variation in Center Quality

Quality Levels by County

Basic indicators of quality are summarized by county in Table 2. We address three of these gauges: maximum group size, child-to-adult ratio (for 3-year-old groups), and the director's school attainment (percentage with graduate-level training). These three indicators differed among counties at marginal to strong levels of statistical significance.

Table 2. Center Quality Indicators by County.

	Los Angeles (n=48 centers)	San Francisco (n=62 centers)	Santa Clara Co. (n=58 centers)	F-value and statistical significance of mean differences
Maximum child group size for 3-year-olds	18.4	15.9	14.8	2.64*
Ratio of children per adult in classrooms for 3-year-olds	5.9 to 1	5.8 to 1	7.6 to 1	6.91**
Percentage of center directors with some graduate school	38	41	26	2.39*

*$p < .10$. **$p < .001$.

Across all participating centers, the mean maximum group size for three-year-olds equaled 16.0 children, with means ranging between 14.8 children in Santa Clara County centers and 18.4 in Los Angeles. Mean differences across the three counties are significant at $p<.076$.

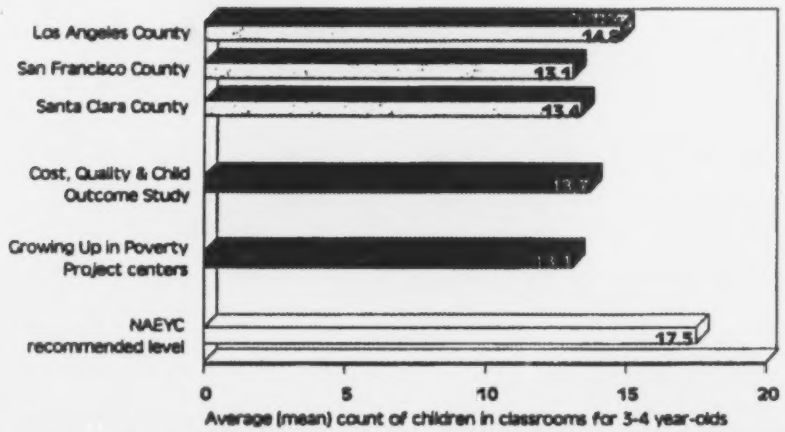
To place these levels in context, in Figure 4 we display *average* class or group size for earlier national samples (*maximum* group sizes were less consistently reported). Centers surveyed for our study compared quite favorably to the earlier investigations. The mean group sizes for 3-year-old classes were 14.8, 13.1, and 13.4 in Los Angeles, San Francisco, and Santa Clara counties, respectively. Even for the wider range of centers in the Cost, Quality, and Child Outcomes study (1995), the team observed an average class size of 13.7 for California centers.

One notable finding is that 28% of all centers reported a maximum group size of more than 20 children. While tight quality regulations are holding class sizes at reasonable levels in most centers, some are unable to meet these recommended standards.

While maximum group size was lowest in Santa Clara County, these centers reported the highest child-to-adult ratio, 7.6 children per adult. This compares to 5.8 children per adult in San Francisco. Centers in Los Angeles are similarly able to maintain a low ratio, 5.9 children per adult, despite reporting the highest maximum group size.

California's quality regulations for contracted centers under Title 5 require that child-to-staff ratios not exceed eight children per adult. This standard is on the more demanding end of the range of acceptable ratios as recommended by one leading professional group, the National Association for the Education of Young Children (NAEYC). Note that some of the sampled centers may not be linked to the state education department's contracting system. If

Figure 4. Comparison of Mean Group Size in California Centers and Nationwide (pertaining to 3-4 year-old children)



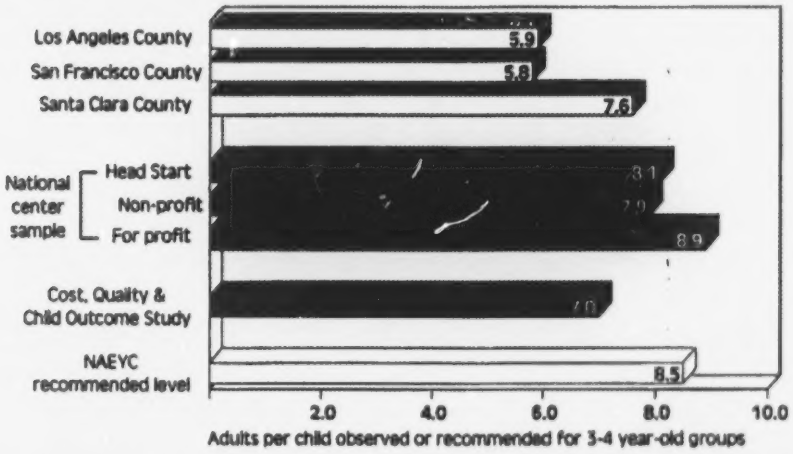
BEST COPY AVAILABLE

BEST COPY AVAILABLE

Data from the Cost, Quality, and Child Outcomes Study Team (1995) are from a sample of 400 centers spread across four states, including California. Centers observed by researchers from the Growing Up in Poverty study are located in one of three states, including California (Fuller, Kagan et al., 2000). NAEYC professionally recommended maximum class group size for 3 year-olds are available from the National Association for the Education of Young Children, Washington, DC.

BEST COPY AVAILABLE

Figure 5. Comparison of Mean Child:Adult Ratios in California Centers and Nationwide (pertaining to 3-4 year-old children)



Staffing ratios for the national probability sample of centers pertain to 3-4 year-old groups as detailed in Fuller et al. (1993). Data from the Cost, Quality, and Child Outcomes Study Team (1995) are from a sample of 400 centers spread across four states, including California. NAEYC professionally recommended levels are available from the National Association for the Education of Young Children, Washington, DC.

not, they can raise their classroom ratio to 12 children per adult. Other states have a more stringent standard. In our sample, 26 of the 159 directors (16%) who provided complete data reported that at least one class group (for 3-year-olds) exceeded the maximum allowable staff ratio under Title 5.

Mean child-to-adult ratios for our sampled centers look very good, compared to the earlier national studies. Los Angeles and San Francisco centers, with ratios at 5.9:1 and 5.8:1, respectively, are two children below the nationally representative sample of non-profit centers surveyed in 1990 (Kisker et al., 1990).

In this latter study, the ratios equaled 8.1 children per adult in Head Start classrooms and 7.9 in non-profit center classrooms (Figure 5). In the Cost, Quality, and Child Outcome study, which included centers in a range of diverse communities, the mean staffing ratio was 7.0, above our sampled centers in Los Angeles and San Francisco.

Center directors in San Francisco reported higher levels of graduate training. The median director in all three counties had completed a four-year degree but no graduate training. In San Francisco, 41% of all directors had completed some graduate work, compared to 26% of all directors in Santa Clara County. These school attainment levels are about one year higher than levels observed in the more middle-class sample of 100 California centers (Cost, Quality, and Child Outcomes, 1995).

Characteristics of Center Organizations and Directors

Descriptive statistics on organization size and complexity, resource flows, and director attributes are reported in Table 3. We should emphasize that these centers are of modest size in most cases, enrolling 68 children

BEST COPY AVAILABLE

Table 3. Characteristics of Center Organizations.

	Los Angeles (n=48 centers)	San Francisco (n=64 centers)	Santa Clara Co. (n=58 centers)	F-value and statistical significance of mean differences
Organizational size				
Enrollments, children of all ages[1]	58 (72)	42 (62)	45 (70)	0.43
Number of class groups for 3-year-olds[1]	1 (2.2)	1 (1.7)	1 (1.8)	1.99
Services and organizational complexity				
Provides infant care (%)	27	13	36	4.88**
Accommodates special needs children (%)	49	50	50	0.01
Open nontraditional hours (%)	10	7	0	2.97*
Have changed regular hours (%)	21	11	32	4.03*
Resource acquisition and subsidies				
Contracts for subsidized child slots	40	50	47	0.60
Enrolls children with vouchers	19	33	21	1.84
Participates in child-care food program	67	66	57	0.73
No children enrolled with subsidies	25	31	22	0.64
Uses R&R for different services	67	70	57	1.25
Index of R&R linkages[2]	1.4	2.1	1.6	1.73

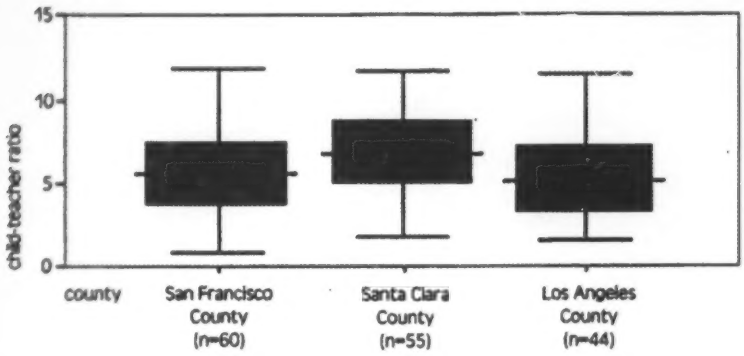
*$p < .10$. **$p < .001$.

[1]Medians are reported, along with mean values (in parentheses). The latter indicate several larger centers with higher enrollments and more class groups.

[2]We asked directors about 9 different R&R services in which their center might be involved. This index is simply the count of these linkages, ranging from 0 to 9.

BEST COPY AVAILABLE

Figure 6. Distribution of Child:Staff Ratios by County



on average and operating just one class group for 3 year-olds during a typical day. One-fourth of all centers provided infant care, and fully 74% served children who were subsidized in some way.

Table 3 also details how the counties compare on the organizational features of their centers. For example, sampled centers in Los Angeles tended to be somewhat larger in terms of enrollments, serving on average 71.8 children age 0-5, compared to 61.9 children among San Francisco centers. These modest organizations operate just one classroom for 3-year-olds on average (medians). Mean values appearing in parentheses show that several larger centers do operate 2–4 class groups for this age group.

Table 3 reports additional organizational features of sampled centers. For example, 36% of all centers in Santa Clara County offer infant care, compared to just 13% in San Francisco. Very few centers are open during nontraditional hours—before 7:00 a.m. or after 6:00 p.m. But up to one-third have changed their hours of operation to accommodate parents' schedules.

Most centers in these lower-income communities, not surprisingly, draw public subsidies or serve families that do. Up to two-thirds of the sampled centers in Los Angeles and San Francisco participate in the federal child-care food program. About half across the three counties have contracted enrollment slots with the state education department to serve children from lower-income families.

A sizeable share of centers have linkages to local resource and referral (R&R) agencies, comprising up to 70% of the San Francisco centers. The number of services utilized by these centers is modest, averaging just under two of nine possible services offered by the R&R.

Variation in Quality Among Centers and Across Neighborhoods

Thus far, the structural indicators of quality look reasonably strong for the majority of centers. Staff turnover rates represent one notable exception. The developmental effects on children—resulting from daily interactions inside classrooms—can be significant and negative when children cannot form stable relationships with center teachers and classroom aides (Shonkoff & Phillips, 2000).

We were able to reliably estimate staff turnover rates in 128 centers, based on complete data provided by center directors.[3] Of these,

Table 4. How Center Size and Resources Help to Explain Quality and Organizational Complexity (unstandardized beta coefficients and t-statistics reported[1])

	(1) Estimating child:staff ratio	(2) Estimating maximum group	(3) Estimating likelihood of serving infants	(4) Estimating likelihood of serving special-needs children
Enrollment size	.006 (1.79)*	.035 (3.25)**	.008 (.003)***	-.003 (-.003)
Draw child-care food program resources	-1.22 (-2.44)**	.46 (0.35)	-.45 (0.39)	.66 (0.34)*
Serves subsidized children	.59 (1.12)	.33 (0.23)	-.04 (0.42)	-.32 (0.37)
R&R linkages index	.17 (0.26)	-2.64 (-1.54)	.87 (0.52)*	.86 (0.46)*
Total equation				
Intercept	7.01	13.78	-1.47	-.42
F-value (or x^2)	2.90*	3.29**	11.31*	9.87*
n of cases	152	115	163	162
r^2	.06	.11	.10	.08

*p < .10. **p < .01. ***p < .001.

[1]The first two equations are estimated via ordinary least-squares (OLS). Models in columns 3 and 4 are logistic regressions, estimating the odds that a center offers infant care or accommodates special needs children, respectively. For the latter two models, standard errors appear in parentheses.

48% reported that no teaching staff (lead teachers or classroom aides) had left in the prior year. Most centers are quite small, operating two to three class groups. Of those centers that did lose a staff member in the prior year, the median center had lost 18% of its staff, just under one in five teaching staff.[4] Variation was wide, however, with one-fifth of all centers losing more than a quarter of their teaching staff the prior year.

We also observed wide variability in child-to-adult ratios across the 168 centers with complete data. Despite the overall good news about low ratios, many centers do have ratios that exceed the recommended maximum for class groups serving three-year-olds (under the state's Title 5 quality standards). Figure 6 plots the distribution of child-to-staff ratios for each county. The solid horizontal line within each box identifies the median ratio. The lower edge of the box marks the ratio value at the 25th percentile; the upper edge of the box indicates the value at the 75th percentile. While there is concentration around the median value which lies close to the regulated maximum of 8 children per adult, 16% of all centers do exceed this value, with a slightly larger share over this regulated limit in Santa Clara County.

BEST COPY AVAILABLE

Explaining Variability in Center Quality

Do the resources available to center organizations or the particular context surrounding each center help to explain quality levels? The short answer is, yes, but only to a limited extent. Center quality—at least along these structural indicators—is not dependent upon the economic strength or poverty levels of local neighborhoods.

Overall, the state's targeting of subsidies and accompanying quality standards have largely met their intended aims: ensuring sufficient levels and equitable distribution of quality among lower-income and working-class communities. In addition, greater resources are modestly associated with incremental gains in quality. This is further evidence that state-led financing and standards are working effectively overall.

At the same time, the analysis that follows shows that larger centers that face pressure to enroll more children—including those in Los Angeles where overall center supply is low—suffer from an erosion of quality as staffing ratios and maximum group size are pushed upward.

We begin by looking at the ability of center directors to acquire subsidies, resources that may be related to staffing ratios, maximum group size, and staff turnover. Table 4 reports basic regression results for the subset of predictors that are associated with the reduced set of quality indicators. The other predictors appearing in the measures section above held no significant association with the quality indicators.

Centers that enroll more children appear to feel upward pressure on their staffing ratio (column 1) and their maximum group size (column 2). Centers' use of subsidies, as measured by participation in the child-care food program, are associated with a lower child-to-adult ratio but show no relationship with maximum group size. We are not arguing that the resources flowing from the food program directly lowers the staffing ratio. Instead, this predictor may be a proxy for a center's ability to attract different lines of public support.

After taking into account these associations, the roughly one-fourth of all centers that do not accept subsidies have slightly higher quality benchmarks, although this relationship is not statistically significant. Interestingly, centers that report more activities with the local resource and referral agency display lower group sizes. The causal direction here can be debated: it may be that higher quality centers, benefiting from more resources, possess a stronger capacity to engage their local resource and referral (R&R) agency.

In column 3 of Table 4 we include a logistic regression estimating the probability that a center offers infant care. This explores whether resource flows are related to a key organizational feature, rather than a specific indicator of quality. Once again, enrollment size is predictive: larger centers are more likely to be serving infants. A stronger association is observed for the degree of involvement with the local R&R. For each major activity in which a center has engaged their R&R, the center is about two times more likely to be serving infants. In short, the capacity necessary for providing infant care may be supported by a center's engagement with an R&R agency.[5]

Is Center Quality and Complexity Influenced by Neighborhood Contexts?

We next introduce the economic and demographic features of each center's neighborhood

Table 5. How Neighborhood Context Helps to Explain Variation in Center Quality and Complexity
(unstandardized beta coefficients and t-statistics reported[1])

	Estimating child:staff ratio (1A)	(1B)	Estimating maximum group size (2A)	(2B)	Estimating likelihood of serving infants[2] (3A)	(3B)
Neighborhood contextual predictors						
Wealth/poverty and employment index[1]	-.01 (0.29)	—	1.69 (2.07)**	1.31 (1.71)*	-.18 (0.24)	—
Population Spanish speaking (%)	.007 (0.01)	—	.008 (2.43)**	.007 (2.04)**	.007 (0.01)	—
Churches per 1,000 residents	.21 (0.32)	—	1.21 (1.16)	—	-.14 (0.29)	—
Santa Clara County (dummy variable)	1.75 (2.91)**	1.53 (3.24)**	-3.42 (-2.06)**	-3.80 (-2.52)**	1.02 (0.50)**	.92 (0.38)**
Center size and resources predictors						
Enrollment size	—	.006 (1.71)*	—	.03 (3.19)***	—	.008 (.003)***
Draw child-care food program resources	—	-.97 (-2.03)**	—	—	—	—
R&R linkages index	—	—	—	-3.12 (-1.87)*	—	.76 (0.52)
Total equation						
Intercept	5.36	6.17	13.73	13.67	-1.58	-2.11
F-value (x^2)	3.11*	6.29***	2.78**	4.83***	7.52	15.86***
n of cases	152	150	114	114	165	168
r^2	.08	.11	.09	.18	.07	.13

*p < .10. **p < .05. ***p < .01.
[1]Index based on zip-code level data on median household income, maternal employment rate, and percent white adult population.
[2]Logistic regression estimating that center provides infant care.

BEST COPY AVAILABLE

context, drawing largely on our census tract and zip code-level supply data. Several of the demographic variables were intercorrelated. After conducting a principal components analysis, we constructed an index of the community's economic status from three individual variables: the maternal employment rate, median household income, and percentage of population who are non-Latino white.

Table 5 reports regression results for contextual predictors, focusing on the same three quality indicators, plus the provision of infant care. For instance, we estimate the child-to-adult ratio, regressing on contextual predictors in column 1A. Then in column 1B we report the full model, reintroducing the enrollment-size and resource flow predictors modeled above.

Our ability to estimate the child-to-adult ratio from contextual factors is limited (column 1A). The only significant covariate is the Santa Clara County marker: centers in this county have significantly higher staffing ratios, about 1.8 more children per adult in classrooms for 3 year-olds. Remember that center supply is lower in Santa Clara than in San Francisco county. This relative scarcity may be placing upward pressure on staffing ratios. As more parents seek enrollment spaces for relatively few slots, the ratio of children to adults appears to rise.

Turning to regression estimates of the maximum group size (column 2A), we see that better-off zip codes display centers with higher group sizes, as do communities with larger proportions of Spanish-speaking adults. Both of these factors may represent family demand pressures that cannot be met within the existing stock of centers. In addition, centers operating in blue-collar communities with fewer income-eligible families may need to recruit more children to raise sufficient revenues from parental fees.

Finally, we selected all predictors with a t-value of 1.50 or significance level of $p<.10$ or stronger. The combined set of predictors for estimating the child-to-adult ratio appear in column 1B. All three predictors remain at least marginally significant. However, this more parsimonious model explains just 11% of the variance in staffing ratios across all centers. The combined model for estimating maximum group size (2B) displays more predictive power, explaining 18% of the variance. Enrollment size and the zip code's level of maternal employment and wealth represent family demand pressures that seem to push the group size upward. We know from earlier research that communities with more Spanish-speaking families also face greater scarcity in supply. This appears to push classroom group sizes higher as supply fails to keep pace with family demand.

The model estimating the likelihood of providing infant care also shows significant associations with enrollment size, stronger links with the local R&R (failing to reach statistical significance), and being located in Santa Clara County. The fact that Santa Clara County centers display higher ratios, despite lower class sizes, may be due to staffing shortfalls. With high wages for semi-skilled workers and the high cost of living in Silicon Valley, it may be that these centers have experienced more difficulty in fully staffing classrooms. Another hypothesis is that Santa Clara County may host more so-called Title 22 centers that are required to have under 12 children per adult, rather than 8 per adult for centers that contract with the state education department to serve lower-income families.

SECTION 5.

Conclusions: State Policy Success and Remaining Gaps

A lively debate is growing louder in California and nationwide over the unequal supply of preschools and center-based programs among diverse communities. The state Legislature, the Children and Families Commission (under Proposition 10), and local counties are moving to address severe scarcities faced by many lower-income and working-class families.

Next year the Bush Administration, in the context of welfare reform and family policy, will come forward with ideas about the appropriate size and scope of the $3 billion child development block grant. The White House opted not to expand Head Start in its first budget; instead the Administration is talking about how to improve program quality.

The debate over how to equalize access is of crucial importance—for until the problem is addressed, each year millions of 5 year-olds in this country will start school poorly prepared. Working-poor parents will have difficulty holding down jobs, given child-care uncertainties. And middle-class families will continue to agonize over how best to balance work and child care.

Beyond the issue of fair and affordable access, policy makers have little knowledge on how the quality of center-based programs is distributed across communities, and whether income-rooted inequities are apparent here as well. The evidence on preschool quality approximates what was known about public school quality in the 1950s. That is, the knowledge base on early education is a half-century behind.

The new evidence presented in this report offers some encouraging news, both about overall quality levels and the efficacy of California's state government in monitoring and financing quality centers and preschools over time. To review our major findings:

- The average level of quality—gauged by several indicators—for the 170 participating centers is quite high. This, despite the fact that sampled centers were situated in lower-income communities. Quality levels are on par with, or higher than, centers included in earlier national studies in middle-class neighborhoods.
- Centers showed higher levels of quality when directors were able to tap into streams of public funding, in part because these subsidies are tied to state quality standards.
- The quality of centers erodes discernibly in communities where family demand is outpacing the supply of existing centers, especially within predominantly Latino areas and working-class neighborhoods where family income is somewhat higher than in poor communities.
- Center quality is largely insulated from the exigencies of lower-income communities, with the exception above where excess family demand persists. The state-led financing and regulatory system appears to be effective in strengthening quality, despite surrounding levels of poverty.
- Linkages with the local resource and referral (R&R) agency appear to bolster centers' ability to sustain higher quality and to offer additional services, such as infant care. More research is required to understand how these relationships aid center staff.

Policy Challenges

Gaps in quality certainly remain. We detailed, for instance, how one sixth of all sampled centers failed to meet recommended quality benchmarks in terms of class size and staffing ratios. Even though all did not legally fall under the state's more rigorous Title 5 standards, it's troubling that class sizes for 3 year-olds floated up to 15-20 children with only one adult in the classroom.

The fact that quality deteriorates in neighborhoods with strong demand, especially in blue-collar and Latino communities, is equally troubling. These families are struggling to hold down jobs and play by the rules. But they face constrained supply, then eroding quality of center-based programs. It's logical that center directors try to respond to this enrollment pressure. But it undercuts the quality of children's daily experiences and potentially affects their early development.

The finding that centers with stronger links to their local R&R agency display higher quality is provocative, yet a bit mysterious. It may be part of a larger issue: how centers can be brought together locally to form a stronger infrastructure. R&R agencies are one important hub within counties, offering staff training, lending children's books to centers, referring parents who are searching for care, and distributing information about subsidy programs. But much work remains to unite networks of centers in ways that make the 'system' seem more accessible in the eyes of parents.

The Importance of Wide and Deep Research

Pushing forward along this line of research could be informative—to include a wider range of communities, and centers that serve middle-income and affluent families. The present study provides a good start, focusing on programs in largely lower-income communities. But stepping back and taking in the wider picture of quality might be revealing.

A related investigation could identify the policy levers that most effectively advance center quality. We suspect, for instance, that several centers in our sample fell under the less stringent Title 22 quality regulations. It would be helpful to learn whether these standards exert a similar or weaker pressure on centers to improve quality, given that they have no direct relationship with the state education department. Nor do we understand whether or how expanded funding of child-care vouchers may aid centers' efforts to raise quality. Our findings demonstrate that when directors have stronger linkages to public funding, they can sustain higher quality. But we simply don't know which funding strategies and incentives are most effective.

California now spends more than $3.2 billion each year on child-care and preschool programs. It's encouraging to learn that Sacramento has crafted a largely effective finance and monitoring system, one that is sustaining quality programs within lower-income neighborhoods. Perhaps the most pressing policy question is whether state and local agencies can build from this success to extend quality centers into blue-collar and middle-class communities, and whether, along the way, we can identify which policy strategies are most effectively boosting child development.

APPENDIX 1
Sampled Communities by County

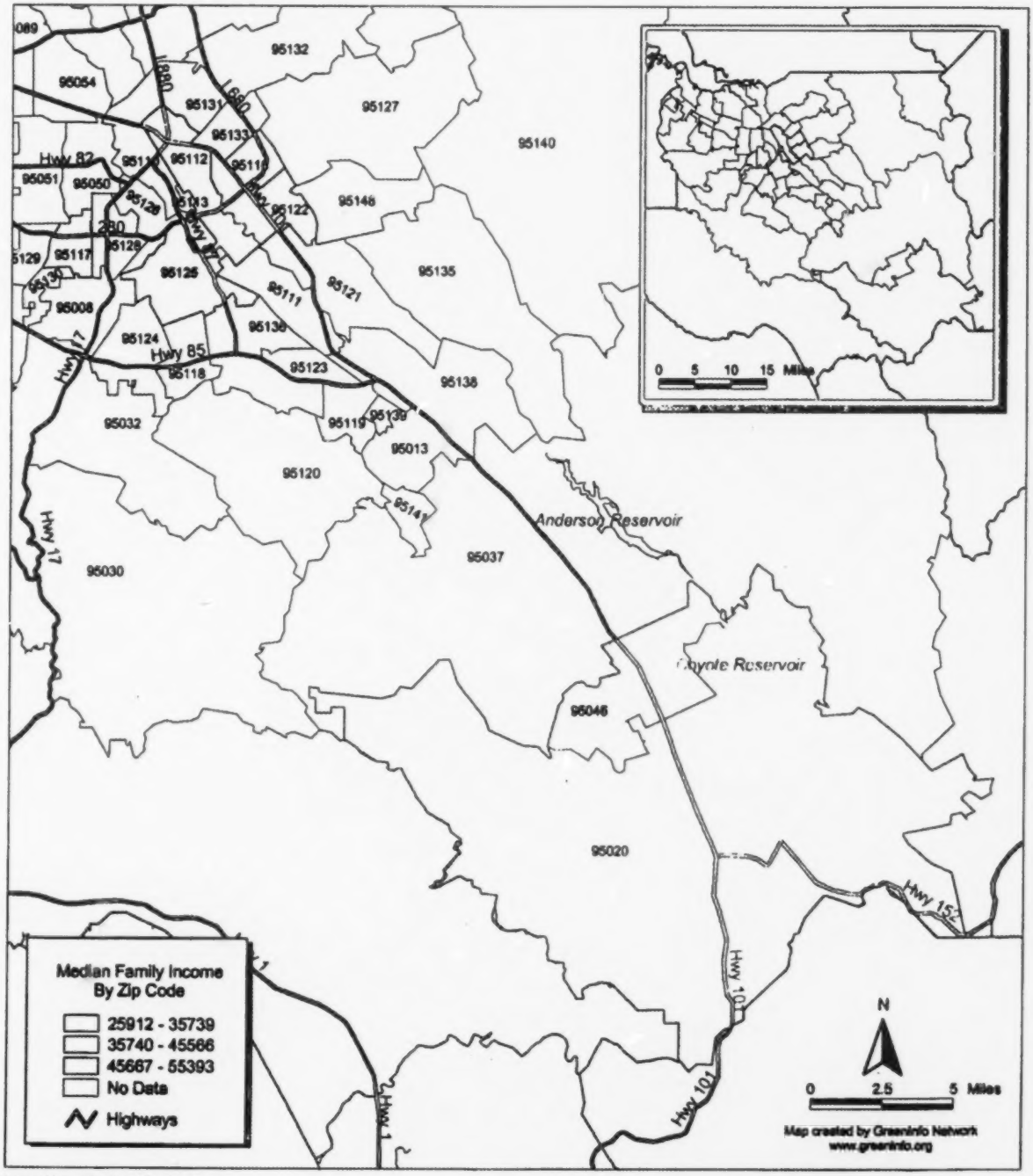
Santa Clara County

Three County Child-Care Quality Study

Low-income zip codes included in sampling frame

California Child Care & Network

PACE



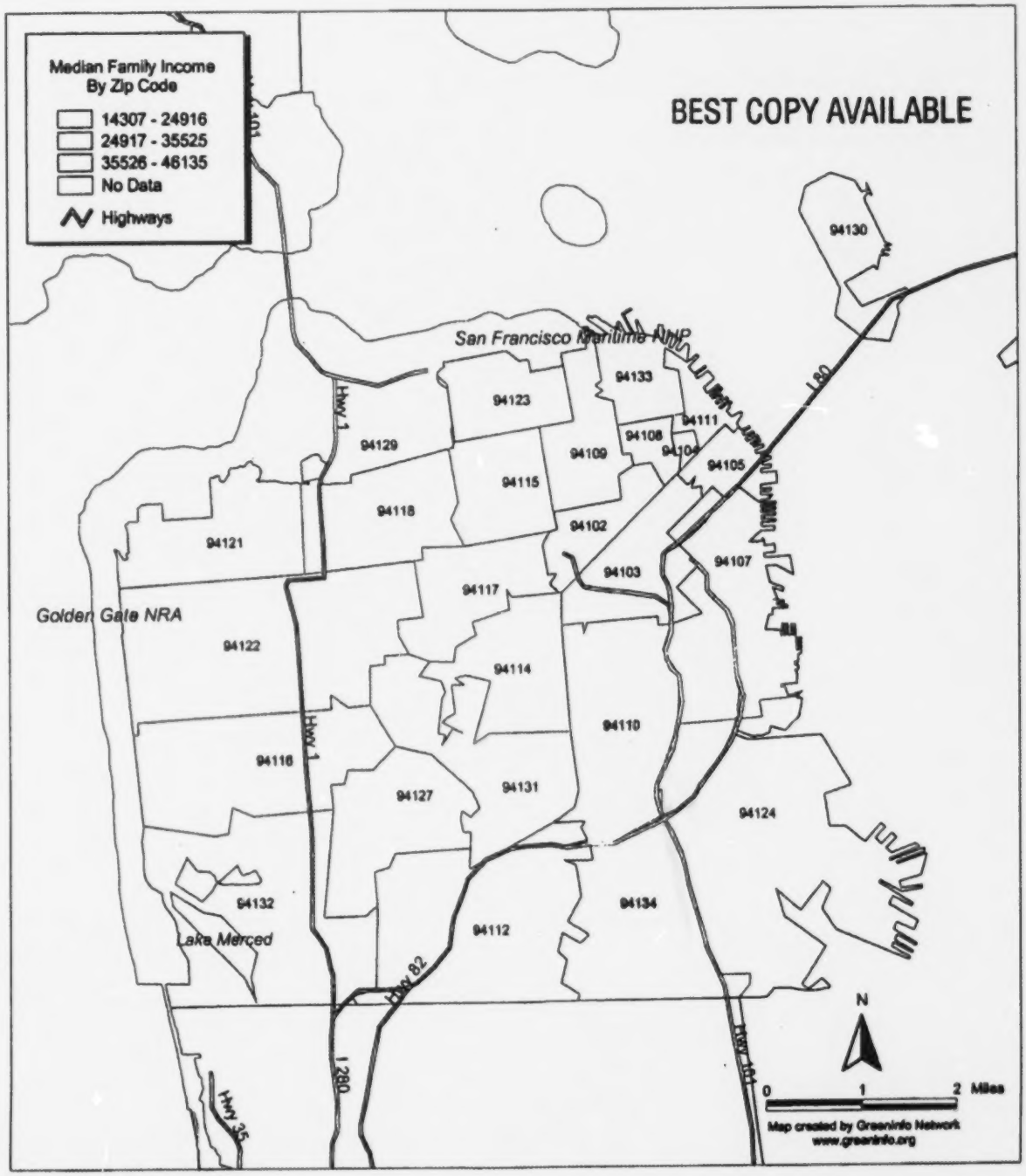
Legend Classification: Equal Interval

BEST COPY AVAILABLE

San Francisco County

Three County Child-Care Quality Study

Low-income zip codes included in sampling frame



Legend Classification: Equal Interval

BEST COPY AVAILABLE

Los Angeles County

Three County Child-Care Quality Study

Low-income zip codes included in sampling frame

Legend Classification: Equal Interval

BEST COPY AVAILABLE

ENDNOTES

[1] Note that throughout this report we use the term *child-care center* or *center* to refer to center-based or preschool programs.

[2] Nonresponses included 12 centers that had closed or did not serve any 3 year-old children.

[3] Staff turnover rates could be reliably estimated only for centers with no infant rooms, given the information that we collected during the director interview.

[4] This average turnover rate is comparatively low, relative to higher rates of staff exit recently reported for centers in northern California (Whitebook, Sakai, Gerber, & Howes, 2001).

[5] A portion of this R&R relationship may be explained by the fact that some community agencies that run the local R&R service also operate a handful of centers. But this represents a small number of centers in our particular sample.

REFERENCES

Boller, K., Paulsell, D., & Raikes, H. (2001). Supporting quality infant-toddler care for lower-income families in an era of welfare reform. Paper presented at the Society for Research in Child Development, Minneapolis.

Fuller, B., Chang, Y., Suzuki, S., & Kagan, S. (2001). Child-care aid and quality for California families: Focus on San Francisco and Santa Clara County. Berkeley: University of California (PACE).

Fuller, B., Kipnis, F., Coonerty, C., & Choong, Y. (1997). An unfair head start: California families face gaps in preschool and child-care availability. Berkeley: University of California (PACE).

Fuller, B., Holloway, S., & Liang, X. (1996). Family selection of child-care centers: The influence of household support, ethnicity, and parental practices. *Child Development,* 67:3320-3337.

Fuller, B., Kagan, S., et al. (2000). *Remember the children: Mothers balance work and child care under welfare reform.* Berkeley: University of California and Yale University.

Fuller, B., Raudenbush, S., Wei, L., & Holloway, S. (1993). Can government raise child-care quality? The influence of family demand, poverty, and policy. *Educational Evaluation and Policy Analysis,* 15:255-278.

Fuller, B., & Strath, A. (2001) The child-care and preschool workforce: Demographics, earnings, and unequal distribution. *Educational Evaluation and Policy Analysis,* 23.

Helburn, S. et al. (1995). *Cost, quality, and child outcomes in child care centers.* Denver: University of Colorado, Department of Economics.

Hofferth, S. (1999a). Changes in American children's time. *Childnews,* spring (bulletin of the American Sociological Association), pp. 1-4.

Hofferth, S. (1999b). Child care, maternal employment, and public policy. Pp. 20-38 in The Silent Crisis in U.S. Child Care, edited by S.W. Helburn, *Annals of the American Academy of Political and Social Science,* vol. 563 (May).

Loeb, S., Fuller, B., & Strath, A. (2001). Explaining the national distribution of child-care workers. Stanford, CA: Stanford University (working paper).

Phillips, D., Voran, M., Kisker, E., Howes, C., & Whitebook, M. (1994). Child care for children in poverty: Opportunity or inequity? *Child Development,* 65:472-492.

West, J., Denton, K., & Reaney, L. (2000). The kindergarten year. Washington, DC: National Center for Educational Statistics (working paper).

Whitebook, M., Sakai, L., Gerber, E., & Howes, C. (2001). Then and now: Changes in child care staffing, 1994-2000. Washington, DC: Center for the Child Care Workforce.

BEST COPY AVAILABLE

Related Reports

PACE papers on child care, early education, and working families:

Research Reports

- Fuller, Kagan, et al. (2000). *Remember the Children: Mothers Balance Work and Child Care under Welfare Reform.* Berkeley: University of California and Yale University.
- Holloway, Kagan, et al. (in press). Assessing child-care quality with a telephone interview. *Early Childhood Research Quarterly.*
- Liang, Fuller, and Singer. (2000). Ethnic differences in child care selection: Influence of family structure, parental practices, and home language. *Early Childhood Research Quarterly,* 15, 357-384.
- Fuller, Kagan, et al. (2001). Explaining family demand for early education: Household factors and neighborhood organizations. Berkeley: University of California (manuscript.)

Policy Briefs

- Carroll (2001). *How to pay for child care? Local innovations help working families.*
- Jacobson. (2000). *Are child care options expanding?*
- Jacobson, et al. (2001). *Understanding child care demand and supply issues: New lessons from Los Angeles.*

To order PACE publications, please call 510-642-7223. Most are available on the Web at pace.berkeley.edu. Hardcopy research reports are $20; policy briefs are $10.

For additional copies of this working paper or related information, contact PACE at www.pace.berkeley.edu. The California Child Care Resource and Referral Network can be reached at www.rrnetwork.org or 415-882-0234.

BEST COPY AVAILABLE

Policy Analysis for California Education PACE
University of California, Berkeley
and Stanford University
3653 Tolman Hall
Berkeley, CA 94720-1670

Telephone: (510) 642-7223
http://pace.berkeley.edu